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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,569	03/27/2006	Shohzoh Tanaka	2936-0270PUS1	4787
2292 7590 05/02/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER BARRERA, RAMON M				
ART UNIT 2832		PAPER NUMBER		
NOTIFICATION DATE 05/02/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/573,569

Applicant(s)

TANAKA, SHOHZO

Examiner

RAMON M. BARRERA

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)
- Paper No(s)/Mail Date 3/27/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldowsky(US4675563) and Gasser(US4389849), et al., in view of Kawano(US6653753), et al.. Gasser was incorporated by reference into Goldowsky (col. 7, lines 60-66).

Goldowsky and Gasser disclosed a sterling engine comprising a piston 14 stored in cylindrical housing (18,20), and a displacer 16 (Gasser); as well as an electromagnetic actuator (Goldowsky) comprising an outer yoke 24; an inner yoke 26 and that is so arranged as to face an inside of the outer yoke; a coil portion (30,32) that is provided at the outer yoke; a permanent magnet (50,52) that reciprocates in accordance with a magnetic flux generated by the coil portion arranged between the outer yoke and the inner yoke; and a reciprocator 14 that supports the permanent magnet, wherein the inner yoke is formed of a plurality of divisions formed axially and combined together (fig. 4) and wherein the inner yoke includes a discontinuous portion 82 for preventing occurrence of eddy current loss, the discontinuous portion having a notch extended axially from one end surface toward another end surface thereof (col. 7, lines 1-20).

Goldowsky and Gasser did not disclose an inner core that is formed by molding a soft magnetic iron powder. Kawano disclosed an inner core that is formed by molding a soft magnetic iron powder for the purpose of preventing eddy current loss (col. 8, lines 34-50). Since Goldowsky, Gasser, and Kawano are all from the same field of endeavor, the purpose disclosed by Kawano would have been recognized in the pertinent art of Goldowsky and Gasser. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ an inner core formed by molding a soft magnetic iron powder for the purpose of preventing eddy current loss.

3. Claims 12, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldowsky(US4675563) and Gasser(US4389849), et al., in view of Kawano(US6653753), et al.. Gasser was incorporated by reference into Goldowsky (col. 7, lines 60-66), cited above, and further in view of Burton(US6552459).

Goldowsky and Gasser in view of Kawano did not disclose wherein a projection is formed on one surface of the divided portion of the inner yoke and a depression is formed on another surface thereof with which depression the projection fits. Burton disclosed a stacked core having a projection 68 formed on one surface of the divided portion of the core and a depression 72 is formed on another surface thereof with which depression the projection fits for the purpose of forming a larger assembly (col. 3, line 1). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ on Goldowsky and Gasser's inner yoke a projection formed on one surface of a divided portion of the inner yoke and a depression formed on another surface

thereof with which depression the projection fits for the purpose of providing a larger yoke assembly.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAMON M. BARRERA whose telephone number is (571)272-1987. The examiner can normally be reached on Monday through Friday from 11 to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ramon M Barrera/
Primary Examiner, Art Unit 2832

rmb